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EXAMINER

SMITH, PHILIP ROBERT

ART UNIT PAPER NUMBER

3739

DATE MAILED: 08/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/791,455

Applicant(s)

FUTATSUGI, YASUYUKI

Examiner

Philip R. Smith

Art Unit

3739

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7,10-12,16 and 17 is/are rejected.
- 7) ☒ Claim(s) 3,4,8,9,13-15 and 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/2, 8/23, 2/18
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

- [01] The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

- [02] Claim 1-20 are objected to because of improper grammar. "an internal cavity of a frame having an inner surface and an outer surface" is preferred. Appropriate correction is required.

Claim Rejections - 35 USC § 112

- [03] The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- [04] Claims 3-4, 8-9, 13-15 & 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- [05] The phrase "one of the openings of the frame" lacks antecedent basis. The frame has not been defined in terms of its openings.
- [06] The phrase "on the opening side," which defines the surface of the substrate which provides a wiring pattern, is indefinite. Per the specification, the "opening side" has been interpreted as the "proximal face," i.e. the side which faces away from the CCD; this appears to be coherent with the description of Figures 3 & 4.

Claim Rejections - 35 USC § 103

[07] The text of those sections of Title 35, U.S. Code The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[08] Claims 1-2, 5-7, 10-12, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higuma (6,547,721) in view of Tarn (5,670,009).

[09] Higuma discloses an endoscope ("electronic endoscope 1," 6/33) having an insertion portion ("insertion unit 2," 6/37) which can be inserted into a body to be examined, comprising:

[09a] an image pick-up unit ("CCD 43," 8/56) for capturing an optical image obtained from incident light entering to the internal cavity of a frame provided on a front end portion of the insertion portion, and outputting an image signal of the optical image;

[09b] a substrate ("substrates 48," 9/31) which is disposed in the internal cavity, has engaging portions for engaging with wiring, one surface of which is substantially orthogonal to the axial direction of the frame; and

[09c] wiring extending from the image pick-up unit to the substrate, extending in a direction opposite to the direction in which the incident light enters, which is

capable of transmitting the image signal ("The CCD 43 is electrically coupled to a cable 49 via substrates 48," 9/29-30).

- [10] The engaging portions disclosed by Higuma may be holes into which the wiring can be inserted. It is clear from Higuma's disclosure that signals from the CCD are being transferred from the image pick-up unit ("CCD 43") to the substrate ("substrates 48") to the cable ("cable 49") via wires; holes in a substrate are a conventional method of engaging a wire from which a signal is received.
- [11] Higuma does not disclose that the substrate is formed of a member having a light-transmitting property.
- [12] Tarn discloses an assembly technique for an image sensor array in which "the process can be monitored through the back of the sapphire substrate 12," (3/61-63). The process mentioned is one of assembling an image pick-up device wherein a substrate ("sapphire substrate 12 and ceramic 16" which compose "package assembly 10," 3/58) is mounted on an image pick-up unit ("mounting base 30 with spacer 38 and sensors 5," 3/65). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that in assembling an image pick-up device, there are advantages to having a transparent substrate: namely, that the substrate does not obstruct the view of the assembler. This advantage is obvious to a skilled artisan, and would motivate him or her to construct the "substrates 48" disclosed by Higuma of a member having a light-transmitting property.

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- [13] *With regard to claims 10-12 & 16-17:* The anticipatory structures have an inherent assembly method.

Allowable Subject Matter

- [14] Claims 3-4, 8-9, 13-15 & 18-20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter.
- [15] The substrate disclosed by Higuma has wiring patterns, but is not "disposed in a predetermined position... so as to hermetically seal... the frame." A comparison of Applicant's Figure 6 to Higuma's Figure 4 is instructive as to the interpretation of the claim upon which this indication of allowable subject matter is based. The substrate disclosed by the Applicant in Figure 6 separates a sealed interior of "substrate frame 19" and an exterior from which the interior is sealed. Higuma's Figure 4 shows a frame (comprising "isolating frame 41," "first shielding frame 51," & "second shielding frame 52") which is sealed (sealed by "adhesive 54... injected to the surroundings"), as well as a substrate ("substrates 48") in a predetermined position. However, the predetermined position to which Higuma's substrate is disposed does not separate an interior of the frame and an exterior from which the interior is sealed. Only Higuma's "adhesive 54" is "disposed in a predetermined position... so as to hermetically seal... the frame." Clearly, "adhesive 54" does not anticipate a transparent substrate upon which a wiring pattern is provided.

Conclusion

- [16] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ito (6,142,930), Matsuno (5,788,628), Takamura (4,677,471) and Okazaki (4,733,396) respectively disclose an image pickup unit, wiring, and substrate assembly similar to that disclosed by the Applicant; Tatsuno (6,030,339) discloses a hermetically sealed endoscope.
- [17] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip R Smith whose telephone number is (571) 272 6087 and whose email address is philip.smith@uspto.gov. The examiner can normally be reached between 9:00am and 5:00pm.
- [18] If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (571) 272 4764.
- [19] Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

prs


John P. Leubecker
Primary Examiner